

Some proposed Amendments.

← DISCARD →

PATENTS
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IN THE CLAIMS:

Please re-write the claims as follows:

1 1. (Currently Amended) A method for programming a pattern matching engine
2 having a plurality of information storage entries with one or more regular expressions,
3 each regular expression including a plurality of characters and having a corresponding
4 action to be applied to matching strings, the method comprising the steps of:
5 identifying one or more borders within a given regular expression, the one or
6 more borders separating the given regular expression into a plurality of sub-expressions,
7 at least one sub-expression having a plurality of sequential characters; and
8 loading one or more entries of the pattern matching engine with a plurality of the
9 sequential characters from at least one sub-expression, wherein the borders are defined by
10 a predetermined sequence of regular expression metacharacters, the entries stored in con-
11 tent addressable memory (CAM).

1 2. (Currently Amended) The method of claim 1 wherein the predetermined se-
2 quence of regular expression metacharacters ~~are a wildcard metacharacter~~ is a first regu-
3 lar expression metacharacter defined to match any one character followed immediately
4 by a second regular expression metacharacter defined to match the preceding ~~repeat last~~
5 character zero, one, or more times ~~metacharacter~~.

1 3. (Original) The method of claim 1 further comprising the step of organizing at
2 least part of the pattern matching engine into a plurality of sections, and wherein each
3 section of the pattern matching engine is loaded with a plurality of search patterns for a
4 corresponding sub-expression.

1 4. (Currently Amended) The method of claim 3 wherein the entries of a given sec-
2 tion are loaded with ~~one of~~ a search pattern that includes a complete match of the respec-
3 tive sub-expression, a search pattern that includes a partial match of the respective sub-
4 expression, and a mismatch pattern.

1 5. (Original) The method of claim 4 further comprising the steps of:
2 associating at least one sub-expression with a current state variable; and
3 loading the associated current state variable into each entry of the section of the
4 pattern matching engine that contains the at least one sub-expression.

1 6. (Original) The method of claim 5 wherein the pattern matching engine has at
2 least one content addressable memory (CAM) loaded with the one or more regular ex-
3 pressions.

1 7. (Currently Amended) The method of claim 6 wherein
2 the CAM is a ~~ternary content addressable memory (TCAM)~~ that supports don't
3 care values, and
4 ~~the mismatch pattern includes all don't care values~~
5 each regular expressions loaded to the CAM is loaded as a plurality of search pat-
6 terns including a mismatch pattern having all don't care values.

1 8. (Currently Amended) ~~The method of claim 7 wherein~~ A method for program-
2 ming a pattern matching engine having a plurality of information storage entries with one
3 or more regular expressions, each regular expression including a plurality of characters
4 and having a corresponding action to be applied to matching strings, the method compris-
5 ing the steps of: